

Abstract

A dedusting unit for a laser optical element is provided. The dedusting unit comprises a high-voltage duct comprising a high-voltage conducting core having a first end and a second end and an insulator element disposed around the core. The first end of the core is connectable to a high voltage power supply and the second end of the core is electrically connected to a wire loop. The dedusting unit may be used in connection with a variety of gas lasers. In use, the dedusting unit is mounted to the laser tube so that the wire loop is disposed inside the gas laser tube in proximity to an optical element to be protected from dust. The dedusting unit is further mounted so that the wire loop is transverse to the resonating path of the laser light within the laser tube so that the resonating laser light may pass through the wire loop without being obstructed by the wire loop. A method for installing the dedusting unit to protect a laser optical element in a gas laser is also provided.

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